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APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
09/925,397	08/09/2001	Yuan-Chi Chang	YOR9-2001-0287 (8728-514)	4473

7590 01/13/2005

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EXAMINER	
EHICHIOYA, FRED I	

ART UNIT	PAPER NUMBER
2162	

DATE MAILED: 01/13/2005

Please find below and/or attached an Office communication concerning this application or proceeding.

Office Action Summary	Application No.	Applicant(s)
	09/925,397	CHANG ET AL.
	Examiner	Art Unit
	Fred I. Ehichioya	2162

-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --

Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If the period for reply specified above is less than thirty (30) days, a reply within the statutory minimum of thirty (30) days will be considered timely.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133). Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

Status

1)☒ Responsive to communication(s) filed on *06 December 2004*.

2a)☐ This action is **FINAL**. 2b)☒ This action is non-final.

3)☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

Disposition of Claims

4)☒ Claim(s) *20 - 39* is/are pending in the application.

4a) Of the above claim(s) _____ is/are withdrawn from consideration.

5)☐ Claim(s) _____ is/are allowed.

6)☒ Claim(s) *20 - 39* is/are rejected.

7)☐ Claim(s) _____ is/are objected to.

8)☐ Claim(s) _____ are subject to restriction and/or election requirement.

Application Papers

9)☐ The specification is objected to by the Examiner.

10)☐ The drawing(s) filed on _____ is/are: a)☐ accepted or b)☐ objected to by the Examiner.

Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).

Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).

11)☐ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

Priority under 35 U.S.C. § 119

12)☐ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).

a)☐ All b)☐ Some * c)☐ None of:

1.☐ Certified copies of the priority documents have been received.

2.☐ Certified copies of the priority documents have been received in Application No. _____.

3.☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).

* See the attached detailed Office action for a list of the certified copies not received.

Attachment(s)

1) ☒ Notice of References Cited (PTO-892)
2) ☐ Notice of Draftsperson's Patent Drawing Review (PTO-948)
3) ☐ Information Disclosure Statement(s) (PTO-1449 or PTO/SB/08) Paper No(s)/Mail Date _____.
4) ☐ Interview Summary (PTO-413) Paper No(s)/Mail Date. _____.
5) ☐ Notice of Informal Patent Application (PTO-152)
6) ☐ Other: _____.

DETAILED ACTION

1. This action is responsive to communications: RCE and Preliminary amendments, both filed December 6, 2004 to the original application filed 08/09/01.

2. Claims 1 – 19 are cancelled. Claims 20 - 39 have been added.

Continued Examination Under 37 CFR 1.114

3. A request for continued examination under 37 CFR 1.114, including the fee set forth in 37 CFR 1.17(e), was filed in this application after final rejection. Since this application is eligible for continued examination under 37 CFR 1.114, and the fee set forth in 37 CFR 1.17(e) has been timely paid, the finality of the previous Office action has been withdrawn pursuant to 37 CFR 1.114. Applicant's submission filed on 12/06/2004 has been entered.

Claim Rejections - 35 USC § 103

4. The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all obviousness rejections set forth in this Office action:

> (a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to a person having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negatived by the manner in which the invention was made.

This application currently names joint inventors. In considering patentability of the claims under 35 U.S.C. 103(a), the examiner presumes that the subject matter of the various claims was commonly owned at the time any inventions covered therein were made absent any evidence to the contrary. Applicant is advised of the obligation

under 37 CFR 1.56 to point out the inventor and invention dates of each claim that was not commonly owned at the time a later invention was made in order for the examiner to consider the applicability of 35 U.S.C. 103(c) and potential 35 U.S.C. 102(e), (f) or (g) prior art under 35 U.S.C. 103(a).

5. Claims 20, 27 and 34 are rejected under 35 U.S.C. 103(a) as being unpatentable over Non-Patent Document: "Supporting Ranked Boolean Similarity Queries in MARS", IEEE Trans. on Knowledge and date Engineering, 10, Nov – Dec. 1998, Author: Ortega et al (hereinafter "Ortega") in view of Non-Patent Document: "MediaNet: A multimedia Information Network for Knowledge Representation", In Conference on Internet Multimedia Management Systems. Vol. 4210 (numbered Pages 1 – 12), Boston, MA, Nov. 2000, 1 ST/SPIE.00, Author: Benitez et al (hereinafter "Benitez").

Regarding claims 20, 27 and 34, Ortega teaches a method for processing multimedia data in a computer system, comprising:

receiving as input a high-level concept describing data to be accessed (see section 1.2, page 4, paragraph 1, "A Boolean retrieval model (adapted for retrieval over images) is used to interpret the query ..... . being able to support such conceptual queries is critical for the versatility of large image databases.", and section 2, "In this section, we briefly describe the image features used . . . Other image features are available ,

however we restrict ourselves to queries involving only to the above features in this paper.");

translating the high-level concept into a low-level query by using stored concept constructs which are defined using features derived from a plurality of application domains (see section 1.2, page 4, paragraph 1, "A Boolean retrieval model (adapted for retrieval over images) is used to interpret the query ..... . being able to support such conceptual queries is critical for the versatility of large image databases.", and section 2, "In this section, we briefly describe the image features used . . . Other image features are available , however we restrict ourselves to queries involving only to the above features in this paper.").

Ortega does not explicitly teach transferring the low-level query to one or more search engines and concept repository.

Benitez teaches transferring the low-level query to one or more search engines to access information using the low-level query (see section 3, page 6, "Typical content-based retrieval systems indexed . . . or the value for any low-level features in the image database" and section 4.2, page 9, "At this point ..... and the results integrated into a unique list as described for visual queries"); and

a concept repository for storing and accessing the concept constructs (see Fig.4 and section 4.1, page 7, "For each application, the list of concepts and relationships in the MediaNet knowledge based should be representative of the content in the database and the goal of the application task.").

It would have been obvious to one of ordinary skill in the data processing art at the time of the present invention to combine teaching of the cited references because Benitez's teaching of "transferring the low-level query to one or more search engines to access information using the low-level query" and "concept repository" would have allowed Ortega's system to integrate both conceptual and perceptual representations of knowledge to impact a broad range of applications that deal with multimedia content at semantic and perceptual levels. This improves the performance of multimedia retrieval applications by using query expansion, refinement and translation across multiple content modalities as suggested by Benitez (see Abstract).

6. Claims 21 – 26, 28 – 33, and 35 - 39 are rejected under 35 U.S.C. 103(a) as being unpatentable over Ortega in view of Benitez and further in view of Non-Patent Document: "CAMEL: Concept Annotated image Libraries", In Storage and Retrieval for Image and Video Database, San Jose, CA, Jan. 2001. SPIE (numbered pages 1 – 12), Author: Natsev et al (hereinafter "Natsev").

Regarding claims 21, 28 and 35, Ortega teaches storing matching algorithms in a matching algorithm library module (see section 4.8, page 20 – section 4.8.3, page 25) and Benitez teaches storing the concept constructs in a concept library module (see Fig.4 and section 4.1, page 7, "For each application, the list of concepts and relationships in the MediaNet knowledge based should be representative of the content in the database and the goal of the application task.").

Ortega or Benitez does not explicitly teach storing the features in a feature library module; and storing constraints in a constraint library module.

However, Natsev further teaches storing the concept constructs in a concept library module (see section 1.2, "The concept cataloguing, or learning, phase is used to define visual concepts and build a concept library. Concepts are defined . . . . The concept library is module for a persistent storage of concepts");

storing the features in a feature library module (see fig.3); and

storing constraints in a constraint library module (see section 6, "Another improvement that we are considering is the introduction of spatial constraints in the query engine. For example, . . . , the corresponding document is ranked higher").

It would have been obvious to one of ordinary skill in the data processing art at the time of the present invention to combine teaching of the cited references because Natsev's teaching of storing the concept constructs in a concept library module, storing the features in a feature library module and storing constraints in a constraint library module would have presented a new direction for improving current image query system, namely focusing the query specification part as gateway to better performance and usability (see Natsev section 6) for the combination Ortega and Benitez's system.

Regarding claims 22, 29 and 36, Natsev teaches interfacing the library modules to the application domains (see fig.3 and section 4, "Fig.3 illustrates the architecture of the ..., as well as the Concept Library module").

Regarding claims 23, 30 and 37, Natsev teaches building a concept construct (see fig.1 and section 1.2, The concept cataloguing, or learning, phase is used to define visual concepts and build concept library. Concepts are defined . . . and to associate it with the given concept").

Regarding claims 24 and 31, Natsev teaches a method as defined in Claim 23, wherein the step of building a concept construct comprise combining one or more of the features with see section 1.2, The concept cataloguing, or learning, phase is used to define visual concepts and build concept library)

zero or more of the stored concept (see Fig.1 and section 1.2, "The concept library is a module for persistent storage of concept"). and

zero or more of the constraints (see section 6, "Another improvement that we are considering is the introduction of spatial constraint in query engine").

Regarding claims 25 and 32, Ortega teaches a concept construct is represented using a hierarchical fuzzy graph data tree-structure comprising: nodes that correspond to child-concepts and a subset of the features; aggregation edges that correspond to parent-child relationships; and association edges that correspond to inter-sibling constraints (see sections 4.1 and 4.2, pages 10 and 11).

Regarding claims 26 and 33, Natsev teaches a method as defined in Claim 20, wherein the features are user defined (see section 2, "One of the most commonly used

image features is color histogram, . . . places the burden on the user to specify weights for the different features").

Regarding claim 38, Natsev teaches a system as defined in Claim 34, wherein the translation engine further comprises an interpreter that translates the high level concept (see fig.1).

Regarding claim 39, Natsev teaches a system as defined in Claim 34, further comprises a search engine (see section 2, "the high-level approach that . . . . , there are some considerations that make certain query engines more suitable than others".

Conclusion

7. Any inquiry concerning this communication or earlier communications from the examiner should be directed to Fred I. Ehichioya whose telephone number is 571-272-4034. The examiner can normally be reached on M - F 8:00 AM to 4:30 PM.

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, John E. Breene can be reached on 571-272-4107. The fax phone number for the organization where this application or proceeding is assigned is 703-872-9306.

Information regarding the status of an application may be obtained from the Patent Application Information Retrieval (PAIR) system. Status information for published applications may be obtained from either Private PAIR or Public PAIR. Status information for unpublished applications is available through Private PAIR only. For more information about the PAIR system, see http://pair-direct.uspto.gov. Should you have questions on access to the Private PAIR system, contact the Electronic Business Center (EBC) at 866-217-9197 (toll-free).

Fred I. Ehichioya
Patent Examiner
Art Unit 2162

January 7, 2005

Mohammad Ali
Primary Examiner
AU: 2167